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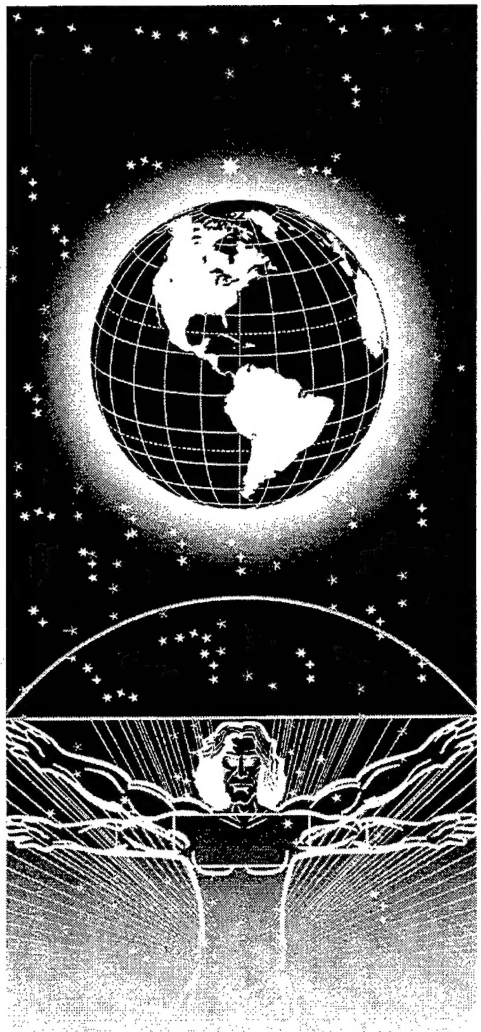

UNITED STATES AIR FORCE
ARMSTRONG LABORATORY

STRONGER HEALTH THROUGH ABUSE REDUCTION AND PREVENTION (SHARP) PROGRAM: PREDICTIVE ABILITY OF THE HISTORY OPINION INVENTORY-REVISED (HOI-R)

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The Office of Public Affairs has reviewed this technical report, and it is releasable to the National Technical Information Service, where it will be available to the general public, including foreign nationals.

This technical report has been reviewed and is approved for publication.

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This study evaluated the History Opinion Inventory-Revised (HOI-R), currently given to all incoming recruits in basic military training, for its ability to predict future substance abuse events. There were 63,074 valid data records in the HOI-R questionnaire files, all of which were used in the exploratory factor analysis. Of these 63,074 records, only 19,306 passed the inclusion criteria for further logistic regression analysis. Factor analysis confirmed a seven factor model similar to the original ten factor model upon which the HOI-R was based. Multivariate regression analysis indicated the most significant predictors (in order) of subsequent substance abuse events were: extroversion, high school performance, marital status, gender and age. Although regression analysis suggested a good prediction model, a classification table for the obtained prediction model suggested it was of little practical use. The model had a very high false-positive rate and would identify too many recruits for treatment who would not require it, therefore wasting much time and money. Although the obtained prediction model was not of applied use, the information obtained in this preliminary study suggested several research directions, including the creation of a new, unique substance abuse prediction tool, to be validated with Air Force recruits.

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SUMMARY

Although the Air Force now uses the CAGE and other screening tools to identify individuals currently abusing alcohol or drugs, the Air Force needs a validated alcohol abuse prediction surveillance/screening system for the active duty population. Active and aggressive efforts to identify and offer prevention programs to individuals before they begin abusing alcohol may not only reduce overall medical costs, morbidity, and unnecessary mortality, but may increase overall mission readiness by decreasing alcohol-related absenteeism, incarceration (e.g., driving while intoxicated [DWI], driving under the influence [DUI]), and alcohol related accidents on the job. To this end, the Air Force Surgeon General's Office, through the Office for Prevention and Health Services Assessment, has initiated the SHARP Program (Stronger Health through Abuse Reduction and Prevention).

The first phase of the SHARP Program was to evaluate the History Opinion Inventory-Revised (HOI-R), currently given to all incoming Air Force recruits, for its ability to predict future substance abuse events. There were 63,074 valid data records from basic military training (BMT) in the HOI-R questionnaire files. All of these records were used in the exploratory factor analysis. Of the 63,074, only 19,306 met the inclusion criteria for further logistic regression analysis. These 19,306 were then matched with personnel database records and examined for substance abuse-related events.

Factor analysis confirmed a seven-factor model similar to the original ten-factor model upon which the HOI-R was based. Univariate regression analysis found age, marital status, and the factors of interpersonal relationship, extroversion, and high school performance to be significantly related to substance abuse events during the first 18 months of active duty. Multivariate regression analysis indicated the most significant predictors of subsequent substance abuse events were, in order: extroversion, school performance, marital status, gender, and age. Although regression analysis suggested a good prediction model, a classification table for the obtained prediction model suggested it was of little practical use. The model has a very high false positive rate and would identify too many recruits for treatment who would not require treatment, therefore wasting much time and money.

While the obtained prediction model was not applicable, the information obtained in this preliminary study suggested several research directions, including the creation of a new, unique substance abuse prediction tool to be validated on Air Force recruits.

INTRODUCTION

The Air Force uses the CAGE and other screening tools to identify individuals currently abusing alcohol or drugs, but it lacks a validated alcohol abuse prediction surveillance/screening system for the active duty population. A recent review of the Department of Defense (DoD) medical data base (RCMAS-OSE) indicated that, for active duty members, substance abuse ranked 2nd in total preventable hospital admissions (N=3,779), and 1st in total number of occupied bed days (N=129,323), with another 34,750 bed days for detoxification before treatment. The two largest categories of active duty Air Force (ADAF) mortality for the period of 1980 to 1993 were motor vehicle accidents (N=30%) and suicide (N=16%). Alcohol was a factor in an estimated 80% of such events (Stout, Parkinson and Wolfe, 1993).

Active and aggressive efforts to identify and offer prevention programs to individuals before they begin abusing alcohol may not only reduce overall medical costs, morbidity, and unnecessary mortality, but may increase overall mission readiness by decreasing alcohol-related absenteeism, incarceration (e.g., driving while intoxicated [DWI], driving under the influence [DUI]), and alcohol related accidents on the job. To this end, the Air Force Surgeon General's Office, through the Office for Prevention and Health Services Assessment, has initiated the SHARP Program (Stronger Health through Abuse Reduction and Prevention).

A review of research on the determinants of alcohol abuse suggested three areas to target as potential risk factors for future abuse: 1) genetic factors (alcohol use/abuse patterns of first degree relatives) (Rowe, 1994; McGue, 1994), 2) an individual's past use (e.g., age at first drink, behavioral/cognitive reaction to first drink) (Knupfer, 1984; Kranzler, Babor, and Lauerman, 1990; Klatsky and Armstrong, 1993; Catarino, 1992) and 3) life skills (e.g., coping skills, such as stress management and anger management) (Wills, Vaccaro, and McNamara, 1992). The SHARP Program's goal is to create and validate an empirically based screening survey to assess these three alcohol abuse determinant areas.

Since June 1976, the US Air Force has given the History Opinion Inventory (HOI) questionnaire to all incoming recruits. The HOI program is designed to reduce the rates of suicidal gestures observed during basic military training (BMT). The original questionnaire has been revised several times and the current HOI-R contains 69 items that measure 11 factors thought to be predictive of suicidal and other high risk behaviors (Bloom, 1983) (see Appendix A for the HOI-R survey). These factors are health, school success, composure, antisocial, family support, withdrawn, conflict with parents, immaturity, emotional instability, interpersonal agreeableness, and test validity (see Appendix B for original factors and questionnaire items within each factor). A score calculated by a discriminate analysis function is given to each individual. Additional screening is provided for those with a score higher than the cut-off point. An identified individual is further evaluated through counseling for his or her continuing active duty status with the Air Force and any future assignment limitations.

The HOI-R questionnaire consists of two sections of items. The first section contains nine items regarding demographic information at the time of entering BMT. The second section contains 69 items designed to assess such characteristics as personality, high school performance, family relationship and health concern. Data from the period May-December 1993 were provided by Dr. Edna Fiedler of the Department of Psychology Research and Service at Wilford Hall Medical Center.

Several of the items on the HOI-R may assess potential substance abuse predictors (for example "when I drink, I get violent," "I have never used illegal drugs," and "I have a hard time controlling my anger"). Several other factors measured by the HOI may be also be predictive of substance abuse (for example school success, antisocial, family support, withdrawal, and immaturity).

The USAF maintains data records whenever a military member has an alcohol- or drug-related incident that comes to its attention. Several variables, including the severity of the incident, the type of substance used, and any treatment recommendation, are entered into the personnel database, Personnel Concepts-III (PC-III). These records are maintained on file for three years following an event, unless further events occur for that individual. The file is used by the Air Force mainly to support the Department of Defense requirement for early identification and treatment of drug and alcohol abusers. These data were provided by Mr. Steve Brady of Headquarters, Air Force Military Personnel Center (HQ AFMPC) at Randolph AFB.

The purpose of the research reported here was to assess the predictive utility of the HOI-R questionnaire for subsequent substance abuse related incidences within an active duty Air Force population. If predictive, the HOI-R could be a useful tool for identifying individuals for targeted preventive interventions.

METHODS AND PROCEDURES

DATA SELECTION

The revised, 69-item HOI-R questionnaire has been used since May 1993. The old version of it (HOI) contained 55 items. We chose not to use data collected from both the old and revised versions of the questionnaires. Therefore, we only included data collected after May 1993 using the revised version.

From previous analysis of the PC-III file, the median time between the entering active duty date (EAD) and the date of the first substance abuse event was found to be 4.2 years. The median time varied with gender, marital status, and military rank. A single, male enlisted member had a much smaller median than a married female officer did. Due to the long duration between the EAD and the date of the first substance abuse event, only data collected from the HOI-R questionnaire between May and December of 1993 are included. Since the available PC-III file only contained records before June 1995, the length of follow-up was between 18 to 25 months (May-December 1993 to June 1995).

INCLUSION CRITERIA

The inclusion criteria were:

1. for factor analysis—
   a) no missing or invalid responses to any items in the questionnaire
   b) duplicated records were excluded
2. for logistic regression analysis—
   a) entering BMT between May and December 1993
   b) active duty only (excluding reserve and national guard)
   c) no missing or invalid responses to any items in the questionnaire
   d) duplicate records were excluded
   e) substance abuse events occurring before BMT were excluded
   f) substance abuse events occurring after June 1995 were not available
   g) if there were multiple events for an individual, only the earliest was included
   h) an event was useless and excluded when the date of event was missing or invalid

There were 63,074 valid data records in the HOI questionnaire file. All of these records were used in the exploratory factor analysis. Of 63,074 records, only 19,306 passed the inclusion criteria for further logistic regression analysis.

RESULTS

DESCRIPTIVE DATA

Table 1 presents the descriptive statistics of age, gender, marital status, and education level for the 19,306 subjects meeting the inclusion criteria. The mean age was 19 years. The majority of subjects were male, single, and high school graduates.

Among the 19,306 included subjects, 831 (4%) had a substance abuse event during the 18-25 month follow-up period. Table 2 lists the frequency distributions of the following substance abuse related variables for the 831 subjects with substance abuse events: substance abuse control type (type of substance), control level (severity of the incident) and transaction type (treatment given). Over 90 percent of the substance abuse events were alcohol related. Only a small number of subjects (<7%) were treated for drug abuse problems. Marijuana was the most frequently used drug (N=33; 4.0%). A majority of those subjects with a recorded substance abuse event were classified as experimental or non-abusive users (N=410;84.8%). Drug or alcohol dependents or possessors accounted for only a small portion of the records (N=18; 3.7%).

There are seven different possible consequences of a substance abuse incident, coded as "substance abuse transaction type" (see Table 2). The first four transaction types are treatment tracks, which range from evaluation and return to duty, to a four-week, inpatient treatment program. The fifth transaction type is transition out of the military, usually for repeated incidents or failure to comply with treatment. The last two transaction types indicated whether individuals had graduated or failed treatment.

The majority of individuals with events were given awareness education (N=418; 50.3%). Reorientation (a one-week, outpatient program) was given 28.5% of the time, while 8.1% of the subjects were transitioned out of the Air Force.

DEMOGRAPHIC BY SUBSTANCE ABUSE EVENT

Table 3 depicts the demographic breakdown for those identified as having a substance abuse event, versus those without an identified event. Unadjusted for other variables, the mean age of the subjects with a substance abuse incident (19.1 years) was lower than those without events (19.4 years) ($p<.01$). There was a significantly higher percentage of males in the group with incidents (87.9%) than in the group without them (77.5%) ($p<.01$). There was also a higher percentage of single individuals in the incident group (95.4%), compared to what was observed for the non-incident group (88.0%) ($p<.01$).

EXPLORATORY FACTOR ANALYSIS

Exploratory factor analysis was done to identify/verify the factor structure underlying the HOI-R. Prior studies of this instrument resulted in a ten-factor solution. Results of our factor analysis confirmed that, although the HOI-R questionnaire contains 69 items, it really just measures a few underlying factors. Exploratory factor analysis determined seven constructs measured by this HOI-R questionnaire dataset.

Before the analyses were conducted, all the reverse coded items were re-coded. The items were reversed so that a socially undesirable response was coded as "1" and a socially desirable response was coded as "0". The code sheet is provided in Appendix C. Items 10, 20, 30, and 40 of the questionnaire were designed to assess response accuracy. All four items have only one valid answer. For example, all recruits are required to have taken certain high school courses, so they should always respond "true" to the question "Took at least one science or math class during high school." During administration, if two or more undesirable responses to these four items were found, the individual re-took the questionnaire within the next week. Therefore, as these items were not designed to measure any underlying construct, only the remaining 65 items were subjected to the following exploratory factor analysis.

Factor analysis is normally conducted in a sequence of steps, with somewhat subjective decisions being made at many of them. Each step and its results are described.

Step 1: Perform an Initial extraction of the factors.

Squared multiple correlations were used as prior communality estimates. The maximum likelihood was used for the initial extraction. Although the principal axis method is probably the most popular extraction method, in the case when the common factor model is appropriate and the correlation matrix is nonsingular, the maximum likelihood method is believed to provide better parameter estimates.

Step 2: Determine the number of "meaningful" factors to retain.

The HOI questionnaire was originally designed with ten critical scales. The names of the scales and the items for each scale are described in Appendix B. The following three criteria were used in determining the number of factors to retain: the results of the Scree test, the proportion of variance accounted for, and the interpretability. After reviewing the results in light of the three criteria mentioned above, a seven-factor solution was recommended.

Step 3: Conduct a rotation to a final solution.

A promax rotation resulting in oblique (correlated) factors was conducted to obtain a simple interpretation. The interpretation of an oblique solution is more complicated than the interpretation of an orthogonal solution, although oblique rotations often provide better results (at least in the situations in which the actual, underlying factors truly are correlated). Since it was known that the underlying factors in HOI questionnaire were probably correlated, an oblique solution was chosen.

Step 4: Interpret the rotated solution.

The resulting rotated factor pattern matrix and factor structure matrix appear in Table 4. Items with loadings under .25 are shown in *italics*. For every item, the loadings of the seven factors were examined and compared. An item was said to load on a factor when its loading on that factor is the largest among the loadings of the seven factors, although the loading may not be meaningful. Loadings equal to or greater than .40 are considered meaningful loadings. Loadings under .40 can be ignored. Within a factor, the items were arranged in descending order of their loadings.

The two matrices provide different information about the relationships between the observed variables (items) and the underlying factors. The factor pattern reveals the unique contribution that each factor makes to the variance of the variable. The pattern loadings in the matrix are essentially standardized regression coefficients, comparable to those obtained in multiple regression. The factor structure, on the other hand, reveals the correlation between a given factor and variable. It helps explain the big picture of how the variables are really related to the factors.

The nature of the factors was determined by reviewing the items with high loadings. A label was then given to each factor according to its nature. The seven-factor solution was again evaluated. Since it satisfied the following interpretability criteria, it was comfortable to apply the results to further analyses.

a) There were at least three items with significant loadings on each retained factor
b) The items that loaded on a given factor shared some conceptual meaning
c) The items that loaded on different factors seemed to be measuring different constructs
d) The rotated factor pattern seemed to demonstrate simple structure

Step 5: Create estimated factor scores.

An estimated factor score is a linear composite of the optimally weighted items under analysis. Different equations, with different scoring coefficients, were used to calculate the subjects' scores on the remaining retained factors. These factor scores were then used as predictor variables in the subsequent analyses.

UNIVARIATE LOGISTIC REGRESSION ANALYSIS

Eleven risk factors, including four demographic and seven identified factor variables assessed at BMT via the HOI-R, were examined by univariate and multivariate methods for their relationship to substance abuse incidents. These factors were: age, sex, marital status, education, factor 1 (supportive family), Factor 2 (neuroticism), Factor 3 (interpersonal relationships), Factor 4 (unhealthy family atmosphere), Factor 5 (extroversion), Factor 6 (high school performance), and Factor 7 (health concerns).

Due to the skewed distributions of the factor scores, quartiles, instead of means and standard errors, are presented in Table 5. Comparisons were made by nonparametric Wilcoxon rank sum test. Six of the eleven variables showed significant results: age ($p < .01$), sex ($p < .01$), marital status ($p < .01$), Factor 3 (interpersonal relationships) ($p < .01$), Factor 5 (extroversion) ($p < .01$), and Factor 6 (high school performance) ($p < .01$).

MULTIVARIATE LOGISTIC REGRESSION ANALYSIS

Univariate analysis of each variable using chi-square, t-test, or Wilcoxon rank sum test gives a preliminary idea of which individual variables might be of prognostic importance. The simultaneous effect of all the variables was analyzed by linear logistic regression model to determine the relative importance of each. The eleven variables were fit to the linear logistic regression model using a stepwise procedure. The variables most significantly related to substance abuse events were: Factor 5 (extroversion), Factor 6 (high school performance), marital status, sex, and age. Table 6 shows the following for the five most significant variables: the improvement chi-square, the degree of freedom, the regression coefficients, the standard errors, the adjusted odds ratios (exp(coefficient)), and the 95% confidence intervals for the odds ratios. The p values used here are the significance levels based on the likelihood ratio test, or the improvement in the maximum likelihood due to the addition of the variable in the stepwise procedure. This method is more powerful than the Wald test, which is based on other standardized regression coefficients. Except for Factor 3 (interpersonal relationships), these results are consistent with those in the univariate analysis.

After all the significant risk factors (main effects) had been identified (as shown in Table 6), stepwise selection was applied again to identify interactions, beginning with the main effects and sequentially selected from among the possible interactions. Of the ten possible interactions, none of them was chosen. In other words, none of the interaction terms provided additional prognostic information given that all the main effects were in the model.

Inferences from a fitted logistic regression model ordinarily begin with estimation of odds ratios for the various risk factors in the model. Since the current model (as

presented in Table 6) does not involve interactions, the odds ratios were obtained by exponentiation of estimated coefficients. To interpret the odds ratios for factors from the HOI-R questionnaire, one has to review what a factor score means. According to the code sheet (see Appendix C), the higher the factor score, the more socially undesirable way an individual shows in this factor.

The odds ratio for Factor 5 (extroversion) is 0.575 ($p < .05$), with confidence limits of 0.52 to 0.64, indicating that this factor is negatively related to the incidence of substance abuse. For every unit increase of the factor score, the risk of incidences of substance abuse decreases by 1.74 times. In other words, an individual who responded in a socially undesirable way to the items loaded in Factor 5 had a lower risk of a substance abuse incident than those who responded to these same items in a socially desirable way. To learn what "socially desirable" means for this factor, Table 3 and Appendix C were examined. In reviewing the items loaded in Factor 5 (as shown in Table 3), an individual with a sociable nature would have had a lower score in this factor and therefore a higher risk for a substance abuse incident.

The odds ratio for Factor 6 (high school performance) is 1.354 ($p < .05$), with confidence limits of 1.22 to 1.49. Since the odds ratio is greater than 1, the factor score had a positive relationship with the outcome. A subject who responded in a socially undesirable way to the items loaded in this factor had a higher risk than those who responded in a socially desirable way. For every unit increase of the factor score, the risk of a substance abuse incident increases to 1.354 times at the lower score. "Socially desirable" in this factor indicates "satisfactory high school performance." Therefore, an individual who performed well in high school would have a lower risk of a substance abuse incident than those who did not perform as well.

The ratio of the odds of substance abuse incidence for males (vs. females) is 1.737 ($p < .05$), with confidence limits of 1.40 to 2.15. Therefore, males were 1.7 times as likely as females to have a substance abuse incident. The odds ratio for marital status is 2.407 ($p<.05$), suggesting single individuals are 2.4 times as likely to have an incident as married individuals. The estimated odds ratio for age is 0.959 ($p < .05$). This indicates that as a subject gets a year older, their risk of substance abuse incidence decreases by 1.05 times.

CLASSIFICATION TABLE

A classification table uses a logistic regression model to classify observations as events or nonevents. A classification table also measures the predictive accuracy of a logistic regression model. The model classifies an observation as an event if its estimated probability is greater than or equal to a given probability cutpoint. Otherwise, the observation is classified as a nonevent. As the probability cutpoints increase in value, the more likely an observation will be classified as a nonevent. The classification table reports how well these classifications match the observed event or nonevent status of each observation.

If the same data is used to test the predictive accuracy of the model that is used to fit the model, it can bias the results. One way to avoid this bias is to use a completely new set of observations to test the predictive accuracy of the model. Another way to avoid

the bias is to fit a model that omits each observation at a time, and then classify each observation as an event or a nonevent, based on the model that omits the observation being classified. This method (known as jackknifing) can be expensive and time-consuming, if the data set is large. Since the data set is large, a method that approximates this unbiased jackknifing method is applied to the data (See page 1092 in the SAS/STAT User's Guide, Version 6, Fourth Edition). Results of applying this bias-adjusted classification method are presented in Table 7, with statistics such as sensitivity, specificity, correct rate, and false positive and false negative rates.

Table 7 lists the classification for a range of probabilities, from the smallest estimated probability to the highest estimated probability, in increments of 0.02. The columns labeled "Correct" and "Incorrect" give the frequency with which observations are correctly and incorrectly classified as events or nonevents for each probability cutpoint. For example, at the cutpoint of 0.04, the model correctly classifies 614 events and 9343 nonevents. It incorrectly classifies 9132 events and 217 nonevents. The overall correct rate is 51.6%, the sensitivity is 73.9%, and the specificity is 50.6% at this cutpoint.

DISCUSSION

The HOI-R questionnaire was not designed to assess the risk of substance abuse. Therefore, we did not expect to find a strong correlation between the responses to HOI-R and substance abuse incidents. Had it been designed for assessing alcohol abuse risk, more significant variables would have been seen in the results. Furthermore, the data in PC-III file was collected for years (since 1980) before being analyzed for the first time during this study. Problems in data collection, entry, and coding were encountered during the course of managing and analyzing the data. Examples of problems include the following: every so often the date of an incident preceded the date the subject joined the Air Force, which is not possible, because the subject would not have been brought on active duty; the transaction type of the first event was "graduation" or "failure;" and the date of the event was entered as the meaningless "default"' date offered by the computer. There were also duplicated records, records not followed through (no information indicating the date of graduation from the treatment program), and so on. A tremendous amount of time was spent in determining why or if data were invalid, inconsistent, or missing. Results of the analyses could have been different with complete data.

Even given the limitations discussed above, the results were encouraging. Univariate analyses reemphasized the importance of the demographic variables of age, gender, and marital status. A closer look at the absolute values for the age variable indicate that, although it was statistically significant, the clinical difference and actual time window between 19.1 and 19.4 years of age is not enough to change current prevention program efforts to target the younger age group. The fact that this study found men at higher risk for substance abuse incidents was not surprising, given the findings from other studies. Still, the gender and age findings are important for prevention program planning. Finally, the finding that single active duty members are

at higher risk is very important, not only for intervention planning, but also for Air Force commanders. The increased risk by marital status may be due to the fact that military bases offer many social events for single, active duty members, and alcohol is usually served at these events.

Factor analysis supported the design of the HOI-R as an instrument measuring several underlying constructs. Unfortunately, a slightly different seven-factor matrix was found in this study than the ten-factor matrix found in the original design studies. When the seven-factor matrix was examined with the substance abuse incident data, three factors were significant predictors of events: extroversion, school success, and interpersonal relationship/agreeableness. These results suggested that those individuals who are more extroverted or outgoing, had lower success in high school, or had poor interpersonal relationships are more likely to have a substance abuse event.

Multivariate analyses suggested the factors of extroversion, school success, age, gender, and marital status were significantly related to subsequent substance-related incidents. The factor measuring interpersonal relationship/agreeableness was not significant in this model, perhaps because the items on this factor may have shared in prediction with marital status. One who is more agreeable in their interpersonal relationships may be more likely to be married.

Although there were several significant findings, there are caveats to the usefulness of these results. First, given that only approximately 3% of the subject population had an event (831 out of 19,306), one could predict incident status best by simply guessing that an individual did not have a substance abuse event. The multivariate analyses showed that while the predictors were statistically significant, they were not of clinical or applied significance. Second, the time frame from completing the HOI-R to examining the PC-III database for an incident was a maximum of 25 months. Therefore, conclusions and applications of this model can only be generalized to substance abuse incidents occurring within the first 25 months of active duty.

For the purposes of this study, the most important question is whether the HOI-R can be applied to selecting out those in need of preventive interventions. The univariate and multivariate analyses suggest it is, while the classification table (see Table 7) suggests it is not. Due to the limitations of this study and the low event rate in the data, no matter what cutpoint was used, the false positive rate is high (ranging from 90.7% to 100%). Studies in the future that can provide more alcohol-abuse related risk factors to build a better predictive model would improve the statistics in the classification table.

RECOMMENDATIONS

This study suggests several future research directions.

First, the data did not support the use of the HOI-R to predict substance abuse. Therefore, research is needed on a substance-abuse specific instrument to be used during basic training to predict those who will have future substance abuse-related events.

Second, several demographic variables were significant predictors of future substance abuse events, but were unfortunately not significant enough to be of applied use. Therefore, we recommend further research using these demographic predictors as, perhaps, a base for a more extensive and useful model.

Third, several factors on the HOI-R were useful in the prediction model we obtained. Future research expanding on these factors is recommended.

Fourth and finally, predicting future health risk behaviors has eluded researchers for decades. But, the findings from this research suggest that perhaps we are looking in the right direction. We strongly recommend continued research efforts into the prediction of substance abuse behaviors among military members.

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TABLES

TABLE 1: DESCRIPTIVE STATISTICS FOR DEMOGRAPHIC VARIABLES

Variable	Category	n	%	mean	se
age		19306		19.4	0.01
gender	male	15047	78%		
	female	4259	22%		
marital status	single	17046	88%		
	married	2260	12%		
education level	hs grad	19150	99%		
	non grad	156	1%		

TABLE 2: FREQUENCY DISTRIBUTION OF SUBSTANCE ABUSE VARIABLES FOR SUBJECTS WITH EVENTS

Variable	Category	Frequency	Percentage	
Substance abuse control type	marijuana	33	4.0%	
	LSD	6	0.7%	
	amphetamines	7	0.8%	
	cocaine	4	0.5%	
	other drug	6	0.7%	
	alcohol	775	93.3%	
Substance abuse control level	experimenter/user	410	84.8%	
	drug/alcohol abuser	54	11.1%	
	drug or alcohol dependent	18	3.7%	
	possessor	1	0.2%	
	missing	343		
Substance abuse transaction type	track 1	32	3.9%	evaluation & return to duty
	track 2	418	50.3%	awareness education
	track 3	237	28.5%	reorientation - 1 week
	track 4	51	6.1%	inpatient tx - 4 weeks
	track 5	67	8.1%	transition to separation
	failed	5	0.6%	
	graduated	21	2.5%	

TABLE 3: SUMMARY STATISTICS FOR DEMOGRAPHIC VARIABLES BY SUBSTANCE ABUSE STATUS AT FOLLOW-UP

			Substance Abuse Event					
			No (n=18475)			Yes (n=831)		
variable		%	mean	se	%	mean	se	p-value
age			19.4	0.01		19.1	0.06	0.00
gender	male	77.5%			87.9%			0.00
	female	22.5%			12.1%			
education	non hs grad	0.8%			1.1%			0.37
	hs grad	99.2%			98.9%			
marital status	single	88.0%			95.4%			0.00
	married	12.0%			4.6%			

TABLE 4: FACTOR PATTERN AND FACTOR STRUCTURE FOR A SEVEN-FACTOR SOLUTION

		FACTOR PATTERN							FACTOR STRUCTURE						
Q#	Question	F1	F2	F3	F4	F5	F6	F7	F1	F2	F3	F4	F5	F6	F7
	Factor 1-- Supportive Family														
25	My family was always ready to help each other.	**.78**	.02	.04	-.04	-.02	-.03	.02	**.74**	.20	-.20	.31	.16	.11	-.05
45	When ever I have problems, my family was always ready to help.	**.77**	.04	.07	-.01	-.03	-.03	.01	**.74**	.21	-.19	.33	.16	.11	-.05
35	Our family was always close.	**.71**	-.09	-.05	.02	.03	-.01	.01	**.71**	.15	-.26	.35	.17	.13	-.05
55	My family hardly ever talked to each other.	**.69**	.09	.12	-.04	-.01	-.01	.01	**.65**	.22	-.13	.26	.17	.11	-.05
63	My family usually did things together.	**.66**	-.06	-.06	-.09	.01	.03	-.03	**.63**	.15	-.24	.23	.15	.16	-.11
5	When I have problems I can usually talk about it with my parents	**.46**	.06	.01	.09	.03	-.01	-.06	**.53**	.24	-.22	.33	.18	.14	-.12
15	My family usually ate together.	**.45**	-.03	-.06	-.12	-.02	.05	-.03	**.41**	.10	-.17	.11	.07	.14	-.09
67	My parents respected my opinions.	**.41**	.06	.07	.27	.04	.00	-.01	**.54**	.24	-.20	.46	.17	.13	-.05
60	When my father or mother was in a bad mood , he or she took it out on the children.	**.28**	.07	-.02	.26	-.01	-.05	.05	**.42**	.21	-.23	.42	.10	.07	.02
64	*I always got along with my parents*	**.24**	-.14	-.18	.41	.04	.00	.02	.46	.13	-.36	.56	.10	.14	-.02
	Factor 2--Neuroticism														
39	I sometimes wonder whether life is worth living.	.04	**.51**	-.02	.01	.04	-.03	.01	.21	**.54**	-.24	.19	.19	.14	-.08
9	I usually feel blue.	.05	**.50**	.06	-.02	.08	.03	.01	.19	**.51**	-.16	.14	.23	.16	-.09
59	I have seriously thought about taking my life more than once	.04	**.48**	.05	-.01	-.01	-.01	.01	.15	**.46**	-.15	.12	.13	.12	-.07
49	I have a hard time controlling my anger	-.03	**.43**	-.12	.04	-.05	.00	.00	.14	**.46**	-.30	.19	.07	.16	-.08
69	I rarely have aches and pains	-.02	**.39**	-.09	.04	.01	.00	.00	.15	**.43**	-.25	.18	.12	.15	-.08
29	I seldom have headaches	-.01	**.36**	.01	.03	.00	-.03	.01	.10	**.36**	-.14	.12	.10	.07	-.04
18	When I get mad or discouraged, I just burst out crying.	-.03	**.36**	.05	.05	.04	-.06	.01	.07	**.33**	-.08	.11	.13	.02	-.03
48	I get really angry at anything that gets in the way of what I am doing.	-.01	**.35**	-.09	.09	-.05	.01	.00	.16	**.40**	-.26	.21	.06	.15	-.07
33	I don't cry easily.	-.06	**.32**	-.04	.06	.06	-.09	.01	.06	**.32**	-.14	.12	.14	.01	-.02
14	I don't mind being told what to do.	.01	**.27**	-.23	-.02	-.02	.01	.00	.15	**.35**	-.33	.15	.07	.16	-.09
24	*When I drink too much I get violent.*	.01	**.24**	-.07	-.01	-.09	.04	.02	.08	**.25**	-.17	.08	-.02	.12	-.03
19	*I have needed professional help for emotional problems.*	.03	**.20**	.01	.01	.01	.02	.03	.10	**.21**	-.09	.08	.07	.07	-.01

TABLE 4: FACTOR PATTERN AND FACTOR STRUCTURE FOR A SEVEN-FACTOR SOLUTION, CONT.

		FACTOR PATTERN							FACTOR STRUCTURE						
Q#	Question	F1	F2	F3	F4	F5	F6	F7	F1	F2	F3	F4	F5	F6	F7
38	*When someone in authority tells me to do something, I usually try to do it exactly the way he or she wants*	.02	**.18**	-.09	-.03	-.01	.04	.00	.10	**.23**	-.18	.07	.05	.12	-.06
44	*I usually do what makes me happy, regardless of what other people think*	.01	**.13**	-.02	.03	-.10	.01	-.04	.05	**.13**	-.09	.07	-.05	.06	-.05
	Factor 3--Interpersonal Relationships (agreeableness)														
58	I have never hurt someone's feelings on purpose	.00	.07	**.53**	.02	.05	-.04	-.04	-.14	-.14	**.50**	-.17	.06	-.16	.03
61	I had never done something just for revenge	.01	-.04	**.51**	.02	.08	-.03	-.04	-.15	-.22	**.51**	-.18	.07	-.18	.04
54	I have sometimes taken advantage of people	.00	-.03	**.47**	.01	.09	.00	-.01	-.14	-.19	**.48**	-.17	.07	-.14	.05
51	I never hesitate to go out of my way to help others	-.03	.08	**-.46**	.12	-.13	.02	.07	-.14	-.13	**.40**	-.06	-.13	-.11	.15
65	I always admit it when I've made a mistake	.03	.01	**.46**	.03	-.06	.04	.06	-.12	-.17	**.43**	-.13	-.07	-.10	.12
23	When I am in a bad mood, I sometimes take it out on other people	-.05	.17	**-.42**	.05	-.04	-.07	.00	.14	.31	**-.47**	.23	.01	.10	-.06
50	I am always a good listener no matter who is talking to me	-.01	-.02	**.42**	.11	-.08	-.05	.02	-.14	-.20	**.41**	-.08	-.10	-.18	12
13	I am always in control of my emotions	-.03	.20	**-.37**	.01	.09	-.06	.02	.16	.34	**-.42**	.19	.14	.10	-.06
53	I have never destroyed other people's property on purpose	-.03	-.07	**.33**	.07	.06	-.08	-.02	-.13	-.20	**.37**	-.10	.03	-.19	.06
3	People who know me say nothing bothers me	.-07	.04	**-.26**	.05	.09	-.04	.04	.07	.15	**-.26**	.13	.09	.04	.00
28	*I don't get very bothered by delays*	-.02	.17	**-.22**	.04	-.04	-.02	.04	.11	.24	**-.29**	.16	.01	.08	-.01
	Factor 4--Unhealthy Family Atmosphere														
47	I have had a lot of arguments with my parents	.06	.02	-.07	**.64**	-.06	.04	-.03	.39	.25	-.36	**.70**	.03	.19	-.05
17	I rarely got mad at my parents	.07	-.02	-.14	**.57**	-.01	.02	-.01	.39	.23	-.38	**.66**	.06	.17	-.03
27	My parents were always telling me what to do	-.04	.08	.18	**.52**	.01	.03	-.04	.18	.17	-.05	**.46**	.08	.09	-.04
7	I was often punished by my parents	.01	.07	.07	**.43**	-.03	.05	.00	.21	.17	-.14	**.43**	.03	.12	-.01
37	My parents wanted to know practically everything I did	-.19	.10	.15	**.42**	.00	-.02	-.02	-.02	.10	.02	**.30**	.02	.00	.01
57	My family hardly ever argued	.19	-.08	-.13	**.44**	.03	.00	.02	.43	.17	-.33	**.56**	.10	.13	-.02

TABLE 4: FACTOR PATTERN AND FACTOR STRUCTURE FOR A SEVEN-FACTOR SOLUTION, CONT.

		FACTOR PATTERN							FACTOR STRUCTURE						
Q#	Question	F1	F2	F3	F4	F5	F6	F7	F1	F2	F3	F4	F5	F6	F7
	Factor 5--Extroversion														
46	I went to parties went I was in high school	-.06	-.11	.04.	.06	**.58**	-.10	.02	.03	.00	.10	.02	**.53**	-.13	.00
66	I usually went out on the weekend nights when I was in high school	-.06	-.12	.01	.06	**.56**	-.11	.07	.03	-.01	.09	.02	**.50**	-15	.05
36	I usually do things with a group of friends	.05	-.01	-.10	-.05	**.47**	-.01	.08	.16	.15	-.10	.06	**.47**	.03	-.01
56	I hardly ever socialize with other students from high school	.04	.07	-.03	.00	**.42**	.04	.03	.18	.22	-.09	.10	**.45**	.09	-.06
68	I don't talk very much	.04	.08	.07	-.09	**.34**	.03	-.05	.09	.15	.03	-.04	**.37**	.05	-.12
26	As a child I was a loner	.16	.12	.02	.02	**.34**	.03	.02	.29	.27	-.11	.16	**.41**	.11	-.08
16	I generally keep to myself	.09	.15	.01	-.05	**.33**	.03	-.03	.20	.26	-.08	.07	**.40**	.10	-.12
6	I was active in sports in high school	-.02	-.01	.02	.01	**.32**	.11	-.14	.08	.12	-.03	.04	**.34**	.15	-.21
43	I have a reputation of being very confident	.01	.12	-.15	-.02	**.28**	.07	-.06	.17	.28	-.23	.11	**.33**	.18	-.17
8	*I worked full time through one summer during high school*	-.04	-.01	-.04	-.01	**.14**	.01	-.06	-.04	.04	-.04	.00	**.13**	.04	-.08
	Factor 6--High School Performance														
52	I had a B average or better in high school	-.03	-.09	.10	.02	.00	**.73**	.03	.07	.07	-.08	.07	.00	**.66**	-.14
42	I never failed a course in high school	.00	-.06	.08	.05	.00	**.59**	.05	.10	.09	-.09	.10	.00	**.55**	-.10
32	I didn't work as hard as I should have when I was in high school	.00	-.06	-.13	.03	-.01	**.44**	-.01	.13	.13	-.25	.13	.00	**.47**	-.15
22	I lost interest in school work when I was in high school	.01	.14	-.15	.00	.02	**.35**	-.05	.19	.32	-.33	.17	.10	**.45**	-.20
2	I had trouble paying attention in class when I was in high school	.00	.22	-.12	.01	.03	**.34**	.00	.18	.38	-.32	.18	.11	**.44**	-.16
62	I had an easy time keeping up with the other students in my high school classes	-04	.08	-.01	.02	.13	**.33**	.04	.10	.20	-.14	.10	.16	**.35**	-.08
12	*I was a member of a club, team or other organization in high school*	-.02	.00	.05	-.02	.22	**.22**	-08	.06	.11	-.03	.01	.23	**.23**	-.17
34	*I have never used illegal drugs*	.04	.02	-.07	-.02	-.13	**.15**	.00	.07	.06	-.13	.05	-.11	**.18**	-.04
4	*I have never been arrested*	.04	.00	-.02	-.01	-.09	**.13**	.04	.04	.02	-.06	.03	-.08	**.12**	.01

TABLE 4: FACTOR PATTERN AND FACTOR STRUCTURE FOR A SEVEN-FACTOR SOLUTION, CONT.

		FACTOR PATTERN							FACTOR STRUCTURE						
Q#	Question	F1	F2	F3	F4	F5	F6	F7	F1	F2	F3	F4	F5	F6	F7
	Factor 7--Health Concerns														
31	I avoid eating certain food to stay healthy	.00	-.02	.05	-.04	.03	.03	**.57**	-.08	-.13	.15	-.05	-.06	-.16	**.57**
21	I don't take vitamins or eat special food to keep healthy	-.01	.00	-.02	-.02	.00	.05	**.52**	-.05	-.07	.05	.00	-.08	-.09	**.50**
41	I exercise to stay healthy	-.01	-.06	.06	-.01	-.12	-.03	**.48**	-.14	-.21	.18	-.07	-.21	-.21	**.52**
11	I don't diet to gain or lose weight.	.00	.09	-.07	-.01	.06	.04	**.44**	.03	.07	-.06	.06	.02	-.03	**.39**
1	I hardly ever weigh myself	-.03	.05	-.01	-.01	-.02	.01	**.43**	-.06	-.04	.04	-.01	-.08	-.10	**.42**

TABLE 5: SUMMARY STATISTICS FOR FACTOR SCORES BY SUBSTANCE ABUSE STATUS AT FOLLOW-UP

			Quartiles					
Factor		Event	0%	25%	50%	75%	100%	p-value
Factor 1	supportive family	no	-1.0	-0.7	-0.4	0.3	2.9	0.27
		yes	-0.9	-0.7	-0.4	0.1	2.7	
Factor 2	neuroticism	no	-1.3	-0.6	-0.3	0.2	5.6	0.16
		yes	-1.1	-0.6	-0.4	0.2	4.5	
Factor 3	interpersonal relationship (agreeableness)	no	-3.1	-0.5	0.2	0.8	1.7	0.00
		yes	-2.7	-0.6	0.0	0.7	1.5	
Factor 4	unhealthy family atmosphere	no	-1.4	-0.8	-0.3	0.6	2.2	0.33
		yes	-1.4	-0.8	-0.2	0.7	2.2	
Factor 5	extroversion	no	-1.6	-0.7	-0.2	0.4	3.5	0.00
		yes	-1.4	-0.9	-0.5	-0.1	2.8	
Factor 6	high school performance	no	-1.7	-0.7	0.0	0.6	2.6	0.00
		yes	-1.7	-0.5	0.3	0.7	2.2	
Factor 7	health concern	no	-1.8	-0.6	0.0	0.6	1.9	0.52
		yes	-1.7	-0.6	0.0	0.7	1.8	

TABLE 6: RESULTS OF STEPWISE LOGISTIC REGRESSION ANALYSIS

Variable	Improvement Chi-square	DF	Coefficient	Standard Error	Odds-ratio exp. (coefficient)	95% CI for odds ratio
Constant			-3.70	0.48		
Extroversion	134.99	1	-0.55	0.05	0.575*	(0.52, 0.64)
School success	61.20	1	0.30	0.05	1.354*	(1.22, 1.49)
Marital Status	41.33	1	0.88	0.17	2.407*	(1.73, 3.36)
Sex	28.39	1	0.55	0.11	1.737*	(1.40, 2.15)
Age	3.94	1	-0.04	0.02	0.959*	(0.92, 1.00)

*p-value < 0.05

TABLE 7: THE BIAS-ADJUSTED CLASSIFICATION TABLE

Prob Level	Correct		Incorrect		Percentages				
	Event	Non-Event	Event	Non-Event	Correct	Sensitivity	Specificity	False POS	False NEG
0.000	831	0	18475	0	4.3	100.0	0.0	95.7	-
0.020	775	3546	14929	56	22.4	93.3	19.2	95.1	1.6
0.040	614	9343	9132	217	51.6	73.9	50.6	93.7	2.3
0.060	346	14024	4451	485	74.4	41.6	75.9	92.8	3.3
0.080	136	17156	1319	695	89.6	16.4	92.9	90.7	3.9
0.100	17	18261	214	814	94.7	2.0	98.8	92.6	4.3
0.120	0	18457	18	831	95.6	0.0	99.9	100.0	4.3
0.140	0	18473	2	831	95.7	0.0	100.0	100.0	4.3
0.160	0	18475	0	831	95.7	0.0	100.0	-	4.3

APPENDIXES

APPENDIX A

HISTORY OPINION INVENTORY—REVISED (HOI-R)

LAST NAME | FI | MI

MILITARY STATUS	MARITAL STATUS	H.S. DIPLOMA
○ Active	○ Single	○ Yes, AE
○ Reserve	○ Married	○ GED, other
○ ANG		○ No

HISTORY OPINION INVENTORY - R

Navy-Air Force Medical Evaluation Testing

(This form is protected by the Privacy Act of 1974 — see Below)

SSAN | AGE | SEX

TODAY'S DATE: Mo | Day | Year — ID NO.

PRIVACY ACT STATEMENT

AUTHORITY: 10 USC 8013

PRINCIPAL PURPOSE: To obtain information for medical screening of basic trainees as part of activities under the USN/USAF-AFMET Project.

ROUTINE USES: To provide data for Phase I testing which will be used for selection of some trainees for Phase II. Information may be disclosed for any of the blanket routine uses published by the Air Force or Navy, whichever is applicable.

DISCLOSURE IS VOLUNTARY: Disclosure of SSN is voluntary. However, failure to provide this information will result in the use of other means for identification.

SIGNATURE:

ANSWER ALL 69 ITEMS MARKING T FOR TRUE; F FOR FALSE.

1	T	F	I hardly ever weigh myself.
2	T	F	I had trouble paying attention in class when I was in high school.
3	T	F	People who know me say nothing bothers me.
4	T	F	I have never been arrested.
5	T	F	When I have a problem I can usually talk about it with my parents.
6	T	F	I was active in sports during high school.
7	T	F	I was often punished by my parents.
8	T	F	I worked full time through one summer during high school.
9	T	F	I usually feel blue.
10	T	F	Took at least one science or math class in high school.
11	T	F	I don't diet to gain or lose weight.
12	T	F	I was a member of a club, team or other organization in high school.
13	T	F	I am always in control of my emotions.
14	T	F	I don't mind being told what to do.
15	T	F	My family usually ate together.
16	T	F	I generally keep to myself.
17	T	F	I rarely got mad at my parents.
18	T	F	When I get mad or discouraged, I just burst out crying.
19	T	F	I have needed professional help for emotional problems.
20	T	F	I am deaf in one ear.
21	T	F	I don't take vitamins or eat special food to keep healthy.
22	T	F	I lost interest in school work when I was in high school.
23	T	F	When I am in a bad mood, I sometimes take it out on other people.
24	T	F	When I drink too much I get violent.
25	T	F	My family was always ready to help each other.
26	T	F	As a child I was a loner.
27	T	F	My parents were always telling me what to do, whether I wanted them to or not.
28	T	F	I don't get very bothered by delays.
29	T	F	I seldom have headaches.
30	T	F	Both parents served in the armed forces.

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WHMC FORM 3547, FEB 94 (OPR: N-AFMET)

Replaces WHMC Form 3547 Jan 93, which is obsolete.

31	T	F	I avoid eating certain foods to stay healthy.
32	T	F	I didn't work as hard as I should have when I was in high school.
33	T	F	I don't cry easily.
34	T	F	I have never used illegal drugs.
35	T	F	Our family was always close.
36	T	F	I usually do things with a group of friends.
37	T	F	My parents wanted to know practically everything I did.
38	T	F	When someone in authority tells me to do something, I usually try to do it exactly the way he or she wants.
39	T	F	I sometimes wondered whether life is worth living.
40	T	F	My father served in World War I.
41	T	F	I exercise to stay healthy.
42	T	F	I never failed a course in high school.
43	T	F	I have the reputation for being very confident.
44	T	F	I usually do what makes me happy, regardless of what other people think.
45	T	F	Whenever I have problems, my family was always ready to help.
46	T	F	I went to parties when I was in high school.
47	T	F	I have had a lot of arguments with my parents.
48	T	F	I get really angry at anything that gets in the way of what I am doing.
49	T	F	I have a hard time controlling my anger.
50	T	F	I am always a good listener no matter who is talking to me.
51	T	F	I never hesitate to go out of my way to help others.
52	T	F	I had a B average or better in high school.
53	T	F	I have never destroyed other people's property on purpose.
54	T	F	I have sometimes taken advantage of people.
55	T	F	My family hardly ever talked to each other.
56	T	F	I hardly ever socialized with other students from my high school.
57	T	F	My family hardly ever argued.
58	T	F	I have never hurt someone's feelings on purpose.
59	T	F	I have seriously thought about taking my life more than once.
60	T	F	When my father or mother was in a bad mood, he or she took it out on the children.
61	T	F	I had never done something just for revenge.
62	T	F	I had an easy time keeping up with the other students in my high school classes.
63	T	F	My family usually did things together.
64	T	F	I always got along with my parents.
65	T	F	I always admit it when I've made a mistake.
66	T	F	I usually went out on the weekend when I was in high school.
67	T	F	My parents respected my opinions.
68	T	F	I don't talk very much.
69	T	F	I rarely have aches and pains.

APPENDIX B

ORIGINAL FACTORS AND QUESTIONNAIRE ITEMS

HOI-R CRITICAL SCALES

SCALE	ITEM
Health	01
	11
	21
	31
	41
School success	02
	12
	22
	32
	42
	52
	62
Composure	03
	13
	23
	33
	43
Antisocial	04
	14
	24
	34
	44
Family Support	05
	15
	25
	35
	45
	55
	57
	60
	63
	64
	67

SCALE	ITEM
Withdraw	06
	16
	26
	36
	46
	56
	66
Conflict w/parents	07
	17
	27
	37
	47
Immaturity	08
	18
	28
	38
	48
Emotional instability	09
	19
	29
	39
	49
	59
	69
Infrequent	10
	20
	30
	40
Sainthood	50
	51
	53
	54
	58
	61
	65

APPENDIX C

CODE SHEET

CODING\ RECODING INSTRUCTION BY ITEM

q1 T=0 F=1	q2 T=1 F=0	q3 T=0 F=1	q4 T=0 F=1	q5 T=0 F=1	q6 T=0 F=1	q7 T=1 F=0	q8 T=0 F=1
q9 T=1 F=0	q10 T=0 F=1	q11 T=0 F=1	q12 T=0 F=1	q13 T=0 F=1	q14 T=0 F=1	q15 T=0 F=1	q16 T=1 F=0
q17 T=0 F=1	q18 T=1 F=0	q19 T=1 F=0	q20 T=1 F=0	q21 T=0 F=1	q22 T=1 F=0	q23 T=1 F=0	q24 T=1 F=0
q25 T=0 F=1	q26 T=1 F=0	q27 T=1 F=0	q28 T=0 F=1	q29 T=0 F=1	q30 T=1 F=0	q31 T=1 F=0	q32 T=1 F=0
q33 T=0 F=1	q34 T=0 F=1	q35 T=0 F=1	q36 T=0 F=1	q37 T=1 F=0	q38 T=0 F=1	q39 T=1 F=0	q40 T=1 F=0
q41 T=1 F=0	q42 T=0 F=1	q43 T=0 F=1	q44 T=1 F=0	q45 T=0 F=1	q46 T=0 F=1	q47 T=1 F=0	q48 T=1 F=0
q49 T=1 F=0	q50 T=1 F=0	q51 T=1 F=0	q52 T=0 F=1	q53 T=1 F=0	q54 T=0 F=1	q55 T=1 F=0	q56 T=1 F=0
q57 T=0 F=1	q58 T=0 F=1	q59 T=1 F=0	q60 T=1 F=0	q61 T=1 F=0	q62 T=0 F=1	q63 T=0 F=1	q64 T=0 F=1
q65 T=1 F=0	q66 T=0 F=1	q67 T=0 F=1	q68 T=1 F=0	q69 T=0 F=1	q70 T=1 F=0		